

# TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

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July 2, 2013

TO: Internal File

THRU: James Owen, Team Lead *JO*

FROM: Ken Hoffman, Hydrologist *KH*

RE: Changes in Water Monitoring, PacifiCorp, Wilberg/Cottonwood Mine C/015/0019, Deer Creek Mine C/015/0018, and Trail Mountain Mine C/015/0009, Task ID #4332

## SUMMARY:

On May 3, 2013, the Division of Oil, Gas and Mining (the Division) received an application from PacifiCorp (the Permittee) to revise Volume 9, Appendix A to Reduce the Hydrologic Monitoring Program for Sites within and outside mine permit boundaries at Wilberg/Cottonwood, Deer Creek Mine, and Trail Mountain Mines.

The Permittee proposes to suspend or eliminate a number of water monitoring points. The application should not be approved at this time. The following deficiencies must be addressed prior to Division approval of the application:

**R645-301-731.214:** Springs 80-47, 82-52 and 89-60 appear to lack pre-mining dataset, however the Permittee's analysis justification is that pre- and post mining data are similar. The Permittee shall either define their justification in more detail or reexamine their justification in light that a pre-mining dataset might not be available.

**R645-301-731.214:** The Division requires greater analysis and justification of springs 17-35-1, 18-1-1, 18-2-1, 79-23, 79-24, 80-43, 80-44, 80-46, and 84-56. In particular, when mining was conducted compared to flows.

**R645-301-731.214:** The Permittee should apply for removal of monitoring of well TM-3 once 6,900 ft is reached so the full dataset available at that time maybe analyzed. The Division does not find compelling reason to stipulate the removal of this monitoring.

**R645-301-731.214:** The Permittee requests to suspend monitoring of springs 80-48, 89-66, 89-67, 89-68, 17-25-1, 17-26-4, 79-28, and 89-65 and well TM-1B. In order to grant

suspension of these locations a detailed analysis of the water quality data for each location must be submitted.

**R645-301-731.224:** Sampling of surface water upstream and downstream of surface facilities will continue to be required. GWR01, GWR02, GWR03, SW-1, SW-2, SW-3 and USGS Flume must continue to be monitored. If the permittee continues to feel these sites should be suspended a detailed analysis must be submitted.

**TECHNICAL ANALYSIS:**

**OPERATION PLAN**

**HYDROLOGIC INFORMATION**

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

**Analysis:**

**Groundwater Monitoring**

The application proposes to suspend monitoring at sites TM-1B, 80-48, 89-66, 89-67, 89-68, 17-25-1, 17-26-4, 79-28, and 89-65. No detailed justification or analysis was submitted for these sites. If the Permittee wishes to suspend these sites they shall submit analysis in compliance with R645-301-731.214.

Springs 17-21-1, 17-22-1, and 79-32 are outside the PacifiCorp's permit areas. The justification for eliminating these springs from the groundwater monitoring program is that they are outside of the area of influence any mining plan. This explanation is justified for removal from these springs monitoring plan.

The justification provided in the application for eliminating spring 17-35-2 from the groundwater monitoring plan is it has never produced measurable flows since monitoring began in 1987. This explanation is justified for removal from this spring from the monitoring plan.

The justification for eliminating springs T-19, 79-10, 79-2, 79-23, 79-26, 79-29, 79-34, 79-35, 79-38, 79-40, 80-41, 82-51, 89-61, Burnt Tree, Elk Spring, and Ted's Tub from the groundwater monitoring program is that there has been no change in pre-mining and post-mining water quality or quantity. This explanation is justified for removal from these springs from the monitoring plan.

The justification for eliminating springs 79-15 and 79-34 from the groundwater monitoring program. A pre-mining dataset is not available for these springs but the Permittee has analyzed the data and shows no abnormality in the post mining dataset to believe any impacts from mining occurred. This explanation is justified for removal from these springs from the monitoring plan.

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The Permittee requests to suspend monitoring of springs 80-48, 89-66, 89-67, 89-68, 17-25-1, 17-26-4, 79-28, and 89-65 and well TM-1B. In order to grant suspension of these locations a detailed analysis of the water quality data for each location must be submitted.

The justification for eliminating springs 80-47, 82-52, and 89-60 from the groundwater monitoring program is that there has been no change in pre-mining and post-mining water quality or quantity. The Division requests a more detailed analysis of 80-47 because the Division's data shows data collection began in 1984 and mining was completed in 1977. The Division requests a more detailed analysis of 82-52 because the Division's data shows data collection began in 1984 and mining was completed in 1982. The Division requests a more detailed analysis of 89-60 because the Division's data shows data collection began in 1989 and amendment shows mining was conducted in 1988-1992. The amendment shall document if and when subsidence mining was conducted.

The justification for eliminating springs 17-35-1, 18-1-1, 18-2-1, 79-23, 79-24, 80-43, 80-44, 80-46, and 84-56 from the groundwater monitoring program is that there has been no change in pre-mining and post-mining water quality or quantity. The Division requests a more detailed analysis of these sites.

The justification provided in the application for eliminating well TM-3 from the groundwater monitoring plan is to continue monitoring until it reaches 6,900 ft. While the justification appears to be valid the Permittee should apply for removal of monitoring of TM-3 once that point is reached including the full dataset available at that time. The Division does not find compelling reason to stipulate the removal of this monitoring.

**Findings:**

The application does not meet the water monitoring requirements of the State of Utah R645-Coal Mining Rules. The following deficiencies must be addressed prior to the Division approval of the application:

**R645-301-731.214:** The Permittee requests to suspend monitoring of springs 80-48, 89-66, 89-67, 89-68, 17-25-1, 17-26-4, 79-28, and 89-65 and well TM-1B. In order to grant suspension of these locations a detailed analysis of the water quality data for each location must be submitted.

**R645-301-731.214:** Springs 80-47, 82-52 and 89-60 appear to lack pre-mining dataset, however the Permittee's analysis justification is that pre- and post mining data are similar. The Permittee shall either define their justification in more detail or examine the data in light that a pre-mining dataset might not be available.

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**R645-301-731.214:** The Permittee should apply for removal of monitoring of well TM-3 once 6,900 ft so the full dataset available at that time maybe analyzed. The Division does not find compelling reason to stipulate the removal of this monitoring.

**Surface Water Monitoring**

The application proposes to suspend stream monitoring at sites GWR01, GWR02, GWR03, SW-1, SW-2, SW-3 and USGS Flume. No detailed justification is given in the amendment for suspending these sites. Further, sampling of surface water upstream and downstream of surface facilities will continue to be required.

**Findings:**

The application does not meet the water monitoring requirements of the State of Utah R645-Coal Mining Rules. The following deficiencies must be addressed prior to the Division approval of the application:

**R645-301-731.224:** Sampling of surface water upstream and downstream of surface facilities will continue to be required. GWR01, GWR02, GWR03, SW-1, SW-2, SW-3 and USGS Flume must be continued to be monitored. If the permittee continues to feel these sites should be suspended a detailed analysis must be submitted.

**RECOMMENDATIONS:**

The application should not be approved at this time.